

Weekly Report

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Intro

Coursewares and textbook have been accomplished. VIS2013 project has resumed.

Research

This weekend I did a survey on recent interactive machine learning approaches. [1] presented an interactive method for tuning ensemble classifier, which is quite close to my idea of “divide learning and re-combine”. It uses confusion matrix, a black-box method for all kinds of classifiers, to evaluate and visualize classifier outputs. User can adjust each individual classifier in order to tune weight of classifiers. Some papers that have not read this week include: [2], [3] and [4] which involve in result evaluation, and [5] and [6] that present novel techniques for model interaction.

Practice & Skills

None.

Miscellaneous

- **Infovis Course** Statistics of individual assignments and preparations for final presentation are ready.
- **Textbook** Related sections in chapter3 has finished.

Plan for Next Week

- Finish reading papers mentioned above;
- design pipeline for transfer learning.

References

- [1] J. Talbot, B. Lee, A. Kapoor, and D. S. Tan, “EnsembleMatrix: interactive visualization to support machine learning with multiple classifiers,” in *CHI '09: Proceedings of the 27th international conference on Human factors in computing systems*, pp. 1–10, ACM Request Permissions, Jan. 2009.

- [2] R. Fiebrink, P. R. Cook, and D. Trueman, “Human model evaluation in interactive supervised learning,” in *CHI '11: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM, May 2011.
- [3] A. Kapoor, B. Lee, D. Tan, and E. Horvitz, “Performance and Preferences: Interactive Refinement of Machine Learning Procedures,” in *Twenty-Sixth AAAI Conference on Artificial Intelligence*, 2012.
- [4] S. Amershi, J. Fogarty, A. Kapoor, and D. Tan, “Effective End-User Interaction with Machine Learning,” in *Twenty-Fifth AAAI Conference on Artificial Intelligence*, 2011.
- [5] A. Kapoor, B. Lee, D. Tan, and E. Horvitz, “Interactive optimization for steering machine classification,” in *CHI '10: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM, Apr. 2010.
- [6] S. Amershi, J. Fogarty, and D. Weld, “Regroup: interactive machine learning for on-demand group creation in social networks,” in *CHI '12: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, ACM, May 2012.